

TPL/DGEN/FINANCE/2024-25/055
25th November, 2024

Plot No. Z - 9
Dahej SEZ Area (Eastern Side)
Taluka - Vagra. Dist- Bharuch - 392130
Phone : +91 2641 202503
Fax : +91 2641 202408

To
The Secretary
Central Electricity Regulatory Commission
7th Floor, Tower B, World Trade Centre
Nauroji Nagar
New Delhi – 110 029.

Sub.: Petition under section 62 and 79 (1) (b) of the Electricity Act, 2003 read with CERC Terms and Conditions of Tariff, Regulation 2024 for determination of Tariff of 1200 MW Dgen Mega Power Project (DGEN Plant) of Torrent Power Limited for the period 01st April 2024 to 31st March 2029.

Dear Sir,

Please find enclosed herewith original Petition for the period 01st April 2024 to 31st March 2029 for 1200 MW Dgen Mega Power Project including 400 kV Dgen Navsari Transmission System of Torrent Power Limited. We wish to inform you that simultaneously we are serving the copies to all the Respondents by Courier/Speed Post.


Please note that as required we have already uploaded soft copies of Petition on CERC e-filing portal. In this reference we have enclosed herewith the acknowledgement slip acknowledging the filing of online Petition on CERC e-filing portal.

In terms of CERC (Payment of fees) Regulations, 2012 we have paid an amount of Rs. 52,80,000 (Rupees Fifty Two Lakhs Eighty Thousand Only) for 1200 MW Dgen Mega Power Project and Rs. 5,00,000 (Rupees Five Lakhs only) for 400 kV Dgen Navsari Transmission System on 25th April, 2024 for FY 2024-25 against Application fees. The copies of proof of such documents are also enclosed herewith for your kind perusal.

Kindly acknowledge the receipt of the same and request you to accept the petition.

Thanking you,

Yours faithfully,
For **Torrent Power Limited**
(Unit: 1200 MW Dgen Mega Power Project)


Naresh K Joshi
Vice President
Encl.: as above

Cc:

1. Torrent Power Limited,
[Unit: Ahmedabad Distribution]
Naranpura Zonal Office,
Sola Road, Naranpura,
Ahmedabad – 380 001
2. Torrent Power Limited,
[Unit: Dahej Distribution],
Plot Z-21, Dahej SEZ Limited,
Tal. Vagra, Dist. Bharuch – 392130
3. PTC India Limited
2nd Floor, NBCC Tower,
Bhikhaji Cama Place,
New Delhi – 110 066



Fee Acknowledgement

Counterfoil (Office Copy)

Transaction Id.: 381e04397f04b0ddae51

Payment 19729029819

Gateway ID:

Status: success

Received From : Torrent Power Limited (TPL)

The Sum of Rs. : 5280000

Fee Type: Annual Fees for Determination of
Tariff Generating Station(GT) Dated : 30 Apr 2024 12:57

Fee Mode: NB

Fee Period: 2024-25

Petitioner/ Organisation Name: Torrent Power Limited (TPL)

30 Apr 2024 15:19



Fee Acknowledgement

Counterfoil (Office Copy)

Transaction Id.: 5081305c2da4cc95bb00

Payment 528422504241197301

Gateway ID:

Status: success

Received From : Torrent Power Limited (TPL)

The Sum of Rs. : 500000

Fee Type: Annual License Fee for Inter-State
Transmission System (Operational) Dated : 3 May 2024 11:22

Fee Mode: Net Banking

Fee Period: 2024-25

Petitioner/ Organisation
Name: Torrent Power Limited (TPL)



3 May 2024 20:54

THE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

PETITION NO:

IN THE MATTER OF:

Petition under Section 62 and 79 (1) (b) of the Electricity Act, 2003 and read with Regulation 9(2) of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 (“Tariff Regulations 2024”) and Central Electricity Regulatory Commission (Procedure of making of application and other related matters) Regulations 2004 for determination of generation Tariff of Dgen 1200 MW Mega Power plant of TORRENT POWER LIMITED (hereinafter called “Petitioner” or ‘the Generating Station’ or “DGEN Plant”) for the period 1st April 2024 to 31st March 2029 (hereinafter referred to as ‘Tariff Period’)

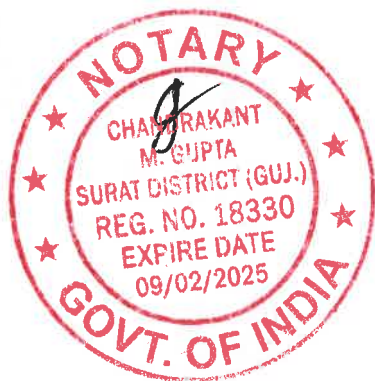
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BEFORE THE CENTRAL ELECTRICITY REGULATORY COMMISSION**NEW DELHI****PETITION NO:****IN THE MATTER OF:**

Petition under Section 62 and 79 (1) (b) of the Electricity Act, 2003 and read with Regulation 9(2) of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 ("Tariff Regulations 2024") and Central Electricity Regulatory Commission (Procedure of making of application and other related matters) Regulations 2004 for determination of generation Tariff of Dgen 1200 MW Mega Power plant of TORRENT POWER LIMITED (hereinafter called "**Petitioner**" or '**the Generating Station**' or "**DGEN Plant**") for the period 1st April 2024 to 31st March 2029 (hereinafter referred to as 'Tariff Period')

AND IN THE MATTER OF:**Petitioner:**

Torrent Power Limited,
[Unit:- 1200 MW Dgen Mega Power Project]
Plot No Z/9, Dahej SEZ Area (Eastern Side)
Ta Vagra, Dist Bharuch-392130

Respondents:

1. Torrent Power Limited,
[Unit: Ahmedabad Distribution]
The Executive Director
Naranpura Zonal Office,
Sola Road, Naranpura,
Ahmedabad – 380 001



2. Torrent Power Limited,
[Unit: Dahej Distribution]
The Executive Director
Plot Z-21, Dahej SEZ Limited,
Tal. Vagra, Dist. Bharuch – 392130
3. PTC India Limited
The Senior Vice President
2nd Floor, NBCC Tower,
Bhikhaji Cama Place,
New Delhi – 110 066





IN-GJ04569840067675W



सत्यमेव जयते

INDIA NON JUDICIAL Government of Gujarat

Certificate of Stamp Duty

Register Sr. No. 1680/2024
Date: 25 NOV 2024
My Commission Expires
on 9th February 2025

Certificate No. : IN-GJ04569840067675W
Certificate Issued Date : 25-Nov-2024 10:51 AM
Account Reference : IMPACC (AC)/ gj13341011/ OLPAD/ GJ-SU
Unique Doc. Reference : SUBIN-GJGJ1334101122937037898913W
Purchased by : TORRENT POWER LIMITED
Description of Document : Article 4 Affidavit
Description : AFFIDAVIT
Consideration Price (Rs.) : 0
(Zero)
First Party : TORRENT POWER LIMITED
Second Party : Central Electricity Regulatory Commission
Stamp Duty Paid By : TORRENT POWER LIMITED
Stamp Duty Amount(Rs.) : 300
(Three Hundred only)





IN-GJ04569840067675W

HIF 0021486055

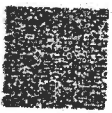
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2. The onus of checking the legitimacy is on the users of the certificate.
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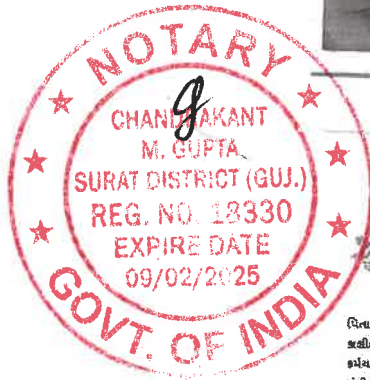

भारत सरकार
GOVERNMENT OF INDIA




जोशी नरेश कलीदास
Joshi Naresh Kalidas
जन्म तारीख/ DOB: 14/08/1967
पुरुष / MALE



2601 8523 1889




भारतीय विशिष्ट पहचान प्राधिकरण
UNIQUE IDENTIFICATION AUTHORITY OF INDIA

सदस्यता :
पिता/पति का नाम: जोशी
कलीदास शंकरदास श्री/श्री.
श्रीमती नरेश-1, सरस्वती
क्लास रानपार्क
घाटलोडिया, अहमदाबाद नगर,
अहमदाबाद.
गुजरात - 380061

Address:
S/O: Joshi Kalidas Shankarlal,
C/7B, KARMACHARI NAGAR-1,
NR. SARASWATI SANGEET
CLASS, RANAPARK
GHATLODIYA, Ahmedabad City,
Ahmedabad,
Gujarat - 380061

1847
1800 300 1847

help@uidai.gov.in

www.uidai.gov.in

P.O. Box No. 1847,
Bengaluru-560 001



Affidavit verifying the Submission:

I, Shri Naresh K Joshi, son of Shri Kalidas Joshi, aged about 57 years, working in Torrent Power Limited having office at "Samanvay", 600, Tapovan, Ambavadi, Ahmedabad, Gujarat – 380015, do solemnly affirm and say that: -

1. I am working as Vice President with Torrent Power Limited, the Petitioner Company in above matter and am duly Authorized to make this Affidavit.
2. That the facts stated in the accompanying submission are based on record and files of the Petitioner Company and they are true and correct to my knowledge, information and belief and I believe the same to be true.



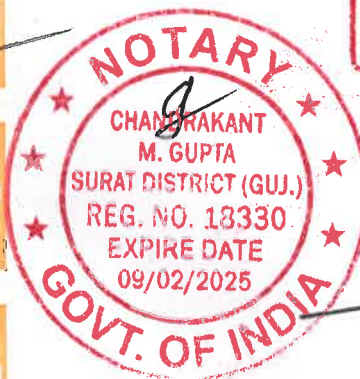
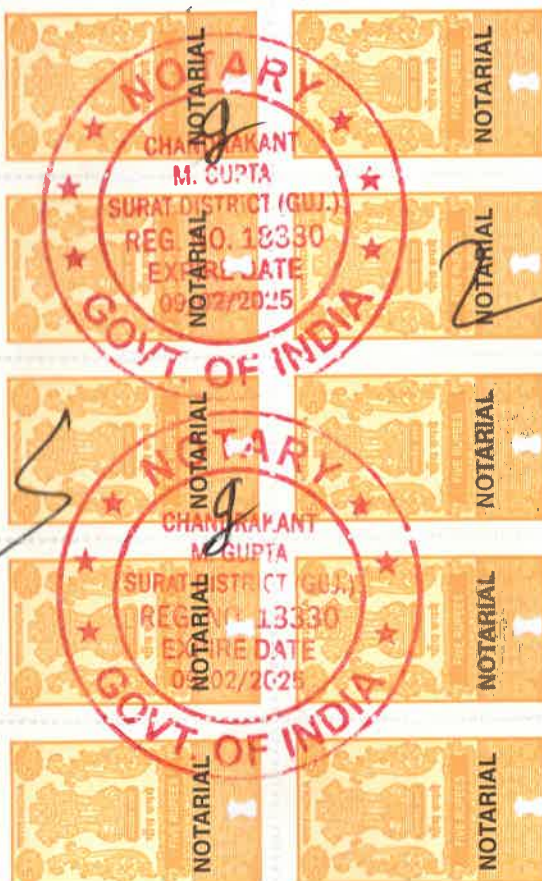
[Signature]

DEPONENT



Place : Surat

Date: 25th November, 2024



Register Sr. No. 1680/2024
Date: 25 NOV 2024
My Commission Expires
on 9th February 2025

BEFORE ME

[Signature]

CHANDRAKANT M. GUPTA
NOTARY
SURAT DISTRICT (GUJ.)
GOVT. OF INDIA

VERIFICATION

I, solemnly affirm at Surat on this 25th November, 2024 that the contents of clause 1 and 2 of the above affidavit are true to my knowledge, no part of it is false and nothing material has been concealed there from.



DEPONENT



BEFORE THE CENTRAL ELECTRICITY REGULATORY COMMISSION
NEW DELHI

PETITION NO: _____

IN THE MATTER OF:

Petition under Section 62 and 79 (1) (b) of the Electricity Act, 2003 read with Regulation 9(2) of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024 and Central Electricity Regulatory Commission (Procedure of making of application and other related matters) Regulations 2004 for determination of generation Tariff of Dgen 1200 MW Mega Power plant of TORRENT POWER LIMITED (hereinafter called "Petitioner" or 'the Generating Station' or "DGEN Plant") for the period 1st April 2024 to 31st March 2029 (hereinafter referred to as 'Tariff Period')

AND IN THE MATTER OF:

Petitioner : Torrent Power Limited,
[Unit Dgen 1200 MW Mega Power Plant]
Plot No Z-9, Dahej SEZ Area (Eastern Side),
Ta. Vagra, Dist. Bharuch-392130

Respondents : 1. Torrent Power Limited,
[Unit: Ahmedabad Distribution]
The Executive Director
Naranpura Zonal Office,
Sola Road, Naranpura,
Ahmedabad – 380 001

2. Torrent Power Limited,
[Unit: Dahej Distribution]
Plot No Z-21, Dahej SEZ Ltd.
Ta. Vagra, Dist Bharuch-392130



3. PTC India Limited
The Senior Vice President
2nd Floor, NBCC Tower,
Bhikhaji Cama Place,
New Delhi – 110 066

The Petitioner files this Petition for determination of electricity supplied from the generating station for the Tariff period 2024-29 in terms of provisions of CERC (Terms & Conditions of Tariff), Regulations, 2024.

THE PETITIONER MOST RESPECTFULLY SUBMITS THAT:



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CHAPTER 1: Historical Perspective

1. The Hon'ble Commission has notified the Central Electricity Regulatory Commission (Terms & Conditions of Tariff) Regulations, 2024 (hereinafter called "**Tariff Regulations 2024**") which has come into force from 1st April 2024.
2. Torrent Power Limited, DGEN 1200 MW Mega Power Plant (Hereinafter called the '**Petitioner**') is submitting this Petition for determination of generation Tariff of DGEN 1200 MW Mega Power Plant (hereinafter called "**Dgen Plant**" or "**Generating Station**") for the period 1st April 2024 to 31st March 2029 ("**Tariff Period**") as per provisions under Regulation 9(2) of Tariff Regulations, 2024.
3. Torrent Power Limited (hereinafter called "TPL") the Petitioner Company is a Public Limited Company within the meaning of the Companies Act, 2013 carrying on the business of generation, transmission and distribution of electricity (in the cities of Ahmedabad, Gandhinagar, Surat, Dahej SEZ, Dholera SIR & DD/DNH in Gujarat, Bhiwandi, Shil, Mumbra & Kalwa (SMK) area in Maharashtra and Agra in Uttar Pradesh) and manufacturing and supply of power cables. Further it is a "Generating Company" as defined under Section 2(28) of the Electricity Act 2003. The present thermal based generation capacity of TPL is around 3,092 MW including 2,730 MW of Gas based and 362 MW of Coal based plants. Further, the present renewable generation capacity, including under construction projects, of TPL is more than 3,500 MW.
4. The Generating Station of the Petitioner Company is located at Dahe SEZ Area, Ta. Vagra, District Bharuch in the State of Gujarat. The Generating Station has installed capacity of 1200 MW (3 Units X 400 MW).
5. The unit wise COD of the Dgen Plant is as below with station COD on 13th November 2014:

Unit	COD
Unit -51	07/09/2014
Unit -52	12/09/2014
Unit -53	13/11/2014



6. The True-up Tariff Order of Dgen Plant covering the period from COD to 31st March 2019 was approved by the Hon'ble Commission under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2014 (hereinafter called "**Tariff Regulations 2014**") vide Tariff Order dated 31st March 2017 in Petition No. 281/GT/2015 (hereinafter called the "**Tariff Order for 2014-19**").
7. Further, the Tariff for the period from 01st April 2019 to 31st March 2024 was approved by the Hon'ble Commission under Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2019 (hereinafter called "**Tariff Regulations 2019**") vide Tariff Order dated 10th March 2022 in the Petition No. 236/GT/2020 (hereinafter called the "**Tariff Order for 2019-24**").
8. The capital cost allowed by the Commission for the period 01st April 2019 to 31st March 2024 vide Tariff Order for 2019-24 under para 7 is as below:

Table 1 : Statement of approved Project Capital Cost as per para 7 of Tariff Order for 2019-24

	Rs. in lakhs				
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Capital Cost	533054.37	533054.37	533054.37	533054.37	533054.37
Add : Additional Capital Expenditure	0.00	0.00	0.00	0.00	0.00
Closing Capital Cost	533054.37	533054.37	533054.37	533054.37	533054.37
Average Capital Cost	533054.37	533054.37	533054.37	533054.37	533054.37

9. Regulation 9(2) of the Tariff Regulations, 2024 mandates the existing generating station to file application for determination of tariff for the period 1st April 2024 to 31st March 2029 based on estimated additional capital expenditure for the respective years of the tariff period 2024-29, which is extracted as below:-

"9(2) In case of an existing generating station or unit thereof, or transmission system or element thereof, the application shall be made by the generating company or the transmission licensee, as the case may be, by 30.11.2024 , based on admitted capital cost including additional capital expenditure already admitted and incurred up to 31.3.2024 (either based on actual or projected additional capital expenditure) and estimated additional capital expenditure for the respective years of the tariff period 2024-29 along with the true up petition for the period 2019-24 in accordance with the CERC (Terms and Conditions of Tariff) Regulations, 2019"



10. In terms of the above Regulation 9(2) of the Tariff Regulations, 2024, this Petition is filed for the determination of tariff for DGEN 1200 MW Mega Power Plant for the period from 01st April 2024 to 31st March 2029 along with estimated capital expenditure. It is submitted that the during 2024-29, the generating station has achieved a milestone of completing 10 years of useful life, the certain capital expenditure can kick in as per the recommendation of OEM. Further, the flexibility of generation operation driven by the penetration of renewable generation and redundancy aspects for safe and efficient operation warrants certain capital expenditure. The petitioner has estimated additional capital expenditure limited to these aspects to ensure reasonability of cost and none of the claim is below Rs 20 lakh. All the expenses related to minor expenditure will be met by the Torrent Power Ltd from the Operation & Maintenance expenses as mandated by the Commission in the Tariff Regulations, 2024.
11. It is submitted that the application for Truing up of tariff for the period 1st April 2019 to 31st March 2024 based on actual additional capital expenditure is filed separately, along with this application.



CHAPTER 2: Capital Cost

1. Regulatory framework for Opening Capital Cost

1.1. Regulation 19 (1) of Tariff Regulations, 2024 provide that

“19. Capital Cost: (1) The Capital cost of the generating station or the transmission system, as the case may be, as determined by the Commission after prudence check in accordance with these regulations shall form the basis for determination of tariff for existing and new projects.”

Further, Regulation 19 (3) of Tariff Regulations, 2019 provide that

“(3) The Capital cost of an existing project shall include the following:

(a) Capital cost admitted by the Commission prior to 1.4.2024 duly trued up by excluding liability, if any, as on 1.4.2024;”

2. Determination of Capital Cost as on 1st April 2024

2.1. It is submitted that the Hon'ble Commission has determined the capital cost for the period 1st April 2019 to 31st March 2024 vide Tariff Order dated 10th March 2022 in Petition No. 236/GT/2020. Further, the Torrent Power Ltd. has also filed the Truing up Petition for the period 01st April 2019 to 31st March 2024 based on actual additional capital expenditure. Therefore, the opening capital cost as on 1st April 2024 has been considered based on the actual additional expenditure claimed in the true up petition. This may undergo change in case of variation of approved additional capital expenditure by the Commission from claimed additional capital expenditure. The statement of actual capital cost for the period 01st April 2019 to 31st March 2024 as submitted in the true up petition is as under:-.

Table 2 : Statement of Project Capital Cost as on 1st April 2024

					Rs. in lakhs
Particulars	2019-20	2020-21	2021-22	2022-23	2023-24
Opening Capital Cost	5,33,054.37	5,33,054.37	5,33,054.37	5,33,054.37	5,33,054.37
Add : Additional Capital Expenditure	-	-	-	-	(2,665.91)
Closing Capital Cost	5,33,054.37	5,33,054.37	5,33,054.37	5,33,054.37	5,30,388.46
Average Capital Cost	5,33,054.37	5,33,054.37	5,33,054.37	5,33,054.37	5,31,721.41



3. Projected Additional Capital Expenditure during FY 2024-25 to FY 2028-29:

3.1. During the period 2024-29, the additional Capital expenditure has been projected in accordance with the provisions of Tariff Regulations, 2024. Details of the additional capital expenditure are given in Table 3 below:-

Table 3 : Statement of Projected Add Cap during the period 2024-29

							Rs. In lacs
Sr. No.	Particulars	2024-25	2025-26	2026-27	2027-28	2028-29	Total
1	Replacement of Assets on Completion of useful life [Regulation 25(2)(a)]						
	Gross Capital Expenditure	-	-	-	250.00	250.00	500.00
	Less : Corresponding decapitalisation under Reg. 26(3)	-	-	-	82.29	69.79	152.08
	Net Capital Expenditure	-	-	-	167.71	180.21	347.92
2	Additional Capitalization for flexible operations [Regulation 26(1)(g)]						
	Gross Capital Expenditure	53.00	-	-	-	-	53.00
3	Additional Capitalization for Efficient Operation [Regulation 26(1)(i)]						
	Gross Capital Expenditure	225.00	-	-	-	-	225.00
-	Total Additional Capex	278.00	-	-	250.00	250.00	778.00
	Less : Corresponding decapitalisation under Reg. 26(3)	-	-	-	82.29	69.79	152.08
	Net Additional Capitalization (1 to 3)	278.00	-	-	167.71	180.21	625.92

4. Replacement of Assets on Completion of useful life [Regulation 25(2)(a)]

4.1. It is submitted that the generating station has completed its useful life of 10 years and some of the assets have completed its useful life which needs replacement. The Commission, vide Regulation 25(2)(a) of Tariff Regulations, 2024, envisaged the replacement of assets deployed under the original scope. Relevant provision is extracted below –

Regulation 25(2)(a) of Tariff Regulations 2024 provides that -

“25 Additional Capitalization within the original scope and after the cut-off date:

(1)...

(2) In case of replacement of assets deployed under the original scope of the existing project after the cut-off date, the additional capitalization may be admitted by the Commission after making necessary adjustments in the gross fixed assets and the cumulative depreciation, subject to prudence check on the following grounds:



- (a) Assets whose useful life is not commensurate with the useful life of the project and such assets have been fully depreciated in accordance with the provisions of these regulations;
- (b) ...
- (c)...
- (d) The replacement of such asset or equipment has otherwise been allowed by the Commission.
- ...”

4.2. During the tariff period 2024-29, the Torrent Power Ltd has considered replacement of assets as per Table 3A under Regulation 25(2)(a) of Tariff Regulations, 2024, as useful life of such assets have been over based on OEM recommendation. It is submitted that the Torrent Power Ltd. has not considered the replacement of assets merely on the ground of completion of useful life, but it has been decided by examination of the asset condition and recommendation of OEM. The item wise detailed technical justification for decision of replacement of assets is submitted. The statement indicating additional capital expenditure on account of replacement of Assets on Completion of useful life is as under:-

Table 3A : Statement showing Add Cap on account of replacement of Assets on Completion of useful life [Regulation 25(2)(a)]

Sr. No.	Particulars	Rs. In lacs					
		2024-25	2025-26	2026-27	2027-28	2028-29	Total
A	220 V DC battery banks	-	-	-	250.00	250.00	500.00
	Less : Corresponding decapitalisation under Reg. 26(3) under Reg.	-	-	-	82.29	69.79	152.08
	Net Capital Expenditure	-	-	-	167.71	180.21	347.92

A. Replacement of 220 V DC battery banks on completion of life

Technical justification:

4.3. Petitioner has installed 8 sets of Battery bank in the Plant. The batteries were manufactured in 2011.

4.4. The Battery banks have a designed life of 20 years and as per OEM batteries can last for 12+ years depending upon ambient conditions

Visible ageing effect & degradation

4.5. During the periodic maintenance, multiple batteries are reported with observation of visible aging effect. The phenomenon of aging manifests in ways of (a) visible growth



in the positive terminal, (b) shedding of the plates, (c) bending of the plates, (d) reduction in capacity during capacity test, (e) irregular float current, (f) imbalance in float voltages. On average around 50-60% are found with visible aging effect. The current battery banks will be at the edge of surpassing its expected lifespan and signs of degradation have become evident during routine assessments. This poses a potential risk to the uninterrupted operation of essential and emergency systems.

- 4.6. Petitioner will replace 2 battery sets in 2027-28 and balance will be done in next five-year plan. Meantime, damaged cells as found during inspection, will be replaced and also the healthy cells of 2 sets being replaced, will be used for maintaining the other 6 sets.

Critical for back-up Power and failure consequences

- 4.7. Battery banks are used as critical back-up power to essential plant electrical system protection and control as well as emergency drives such as DC Lube Oil and DC Seal Oil Pumps and critical system valves such as Hydrogen gas system, Natural Gas system etc. Battery banks also supply power to UPS system and 24V DC Converter system. to supply uninterrupted power. to critical control and protection system of plants including plant DCS. A reliable DC System with battery banks is essential to safeguard plant's equipment in case of loss of grid electrical supply for safe shutdown.
- 4.8. These systems play a crucial role in maintaining safe operating conditions. A failure can compromise safety mechanisms, increasing the risk of accidents and hazardous situations. In view of the importance of healthy battery functioning, observations during periodic testing and inspection during 2024, petitioner has decided to replace 220 V DC Battery bank installed in Unit 51 and Switchyard (2 sets in Unit-51 & Switchyard consisting of 108 no in each set) during the period 2024-29 as per **Table 3A(b)**.

Cost Estimate

- 4.9. Petitioner has received budgetary offer from OEM (Ref. EN/torrent sugen/JUL/2024-25 Dated 23.07.2024 & EN/torrent sugen/SEP/2024-25 Dated 11.09.2024) which is attached as **Annexure 1**. As per budgetary offer, total cost of replacement of battery bank (total 108 cells) along with installation services (minus buy back for old cells) comes to Rs. 500 lacs for Unit-51 and Switchyard. The statement of cost estimate for replacement of Battery Bank in Unit-51 and Switchyard towards projected additional capital expenditure during the period 2024-29 is given as under:-



Table 3A(b) Statement of Projected Add Cap during the period 2024-29 with Replacement of Battery Bank in Unit-51 and Switchyard

Head of works/ Equipment	Rs. in Lacs				
	2024-25	2025-26	2026-27	2027-28	2028-29
220 V DC battery banks in Unit 51 and Switchyard	-	-	-	250.00	250.00
Less: Corresponding decapitalisation under Reg. 26(3)	-	-	-	82.29	69.79
Net Capital Expenditure	-	-	-	167.71	180.21

Precedence cases of Similar order

4.10. It is submitted that the Hon'ble Commission had allowed Additional Capital Expenditure towards replacement of battery bank on the ground of Completion of useful life in similar cases as discussed below:-

- a) Hon'ble Commission, **vide order dated 22nd June, 2023 in Petition No. 257/GT/2020**, had allowed replacement of Replacement of 220 V Battery Bank of NHPC Limited (Refer para 67 line B (2) of table of Petition, Copy of para attached herewith as **Annexure 2**). Relevant para of the order is extracted below:-

“Considering the fact that the expenditure claimed is on account of replacement of asset /work due to obsolescence of technology, the same is allowed under Regulation 25(2)(c) of the 2019 Tariff Regulations. The de-capitalization of old asset/work has been considered under assumed deletions.”

- b) Hon'ble Commission, **vide order dated 31st March, 2022 in Petition No. 293/GT/2019**, had allowed Replacement of 220 V, 600 AH, 2 V/Cell Battery Bank, of North Eastern Electric Power Corporation Limited (Refer para 15 line 3 of table of Petition, Copy of para attached herewith as **Annexure 3**).

5. Additional Capitalization for flexible operations [Regulation 26(1)(g)]

Flexibilization Upgrade for load gradient, turndown and start/shutdown

- 5.1. The existing power system operation demands for flexible operation of the thermal power generating station in view of the increasing renewable penetration. Hon'ble Commission also recognized the need for flexible operation of thermal generating station and envisages the additional capitalization in its Tariff Regulations, 2024. It is submitted that the Torrent Power Ltd. has assessed the requirement of flexible operation of the TPL-Dgen Power Station for Enabling Flexibilization of generating station.



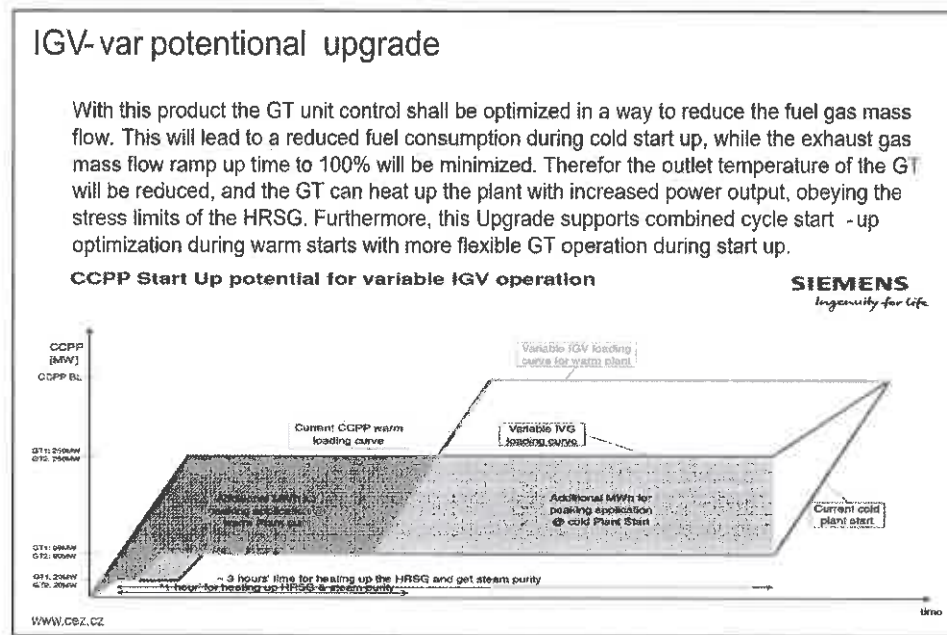
Technical Justification

Change in operating regime due to penetration of renewable generation

- 5.2. Petitioner submits that DGEN Combined Cycle Power Plant (CCPP) consist of gas turbines, heat recovery steam generators (HRSGs), and steam turbines which were originally designed for base load operation. However, over last few years, with penetration of Renewable Generation, there is sea change in load profile and operation of generating station. This has forced combined cycle plants to operate in cyclic mode as per beneficiaries' requirement. This result into frequent starts up and shuts down on daily basis, resulting into unique technical challenges.
- 5.3. It is understood that various CCPPs across developed and developing nations are tackling the situation by implementing various Flexibilization operation related upgrades and incorporating latest technological updates available from respective OEMs. Although, many Gas turbines have been designed to operate most efficiently at maximum load conditions, with today's changing market, the need to efficiently operate at part load is becoming more important as well.
- 5.4. It is apparent from the above that the Combined cycle base load plants have to adjust their operation of the generating station to the changing requirement of power system operation by implementing necessary upgrades, optimizing start-up processes, and embracing flexibility and changing in operation. These adaptations are essential to meet today's requirement.
- 5.5. Petitioner submits that, addition of renewable generation in Indian grid affected operation of Dgen Thermal Power Plant. This has created a requirement of flexible plant operation in terms of generation backdown to technical minimum, faster load gradient, cyclic operation and daily start/stop of the units.
- This Flexibilization will enable Gas Turbine to fast loading up to baseload during peak hours and supporting grid demand.
 - Gas Turbine need not to wait for minimum loading till steam turbine parameters are met. This will result in fuel gas savings.
 - This Flexibilization will help in overall reduction of total time to reach unit base load.



Below is the graphical representation showing the benefits will be achieved by implementing Flexibilization.



Statutory Guidelines for Flexible Operations of Thermal Generating Station

- 5.6. Petitioner has submitted that the need for flexible operations, faster ramp rates and minimum turn down is clearly indicated under Central Electricity Regulatory Commission (Indian Electricity Grid Code) Regulations, 2023 clause 45 (9) (a) (ii) regarding ramp rate of Gas based plants minimum at 3% encouraging generating stations to achieve faster ramp rates.
- 5.7. With reference to above, CERC has called up a meeting regarding discussion on flexible operation of gas based thermal power stations on 02nd Sep, 2024, copy of mail is attached under **Annexure 4**
- 5.8. It is submitted that the Hon'ble Commission has already recognized the additional capitalization beyond original scope as per Table 3E on account of flexible operations under Regulation 26(1)(g) of Central Electricity Regulatory Commission (Terms and Conditions of Tariff) Regulations, 2024. Regulation 26(1)(g) provides that –

“26. Additional Capitalization beyond the original scope

- (1) *The capital expenditure, in respect of the existing generating station or the transmission system, including the communication system, incurred or projected to be incurred on the following counts beyond the original scope, may be admitted by the Commission, subject to prudence check:*



- (g) *Works required towards biomass handling system to enable biomass co-firing and towards enabling flexible operation of the generating station as may be required;”*

Cost estimates

- 5.9. The cost is estimated based on the Purchase Order placed with OEM (Ref. Dahej GEN/O&M/37311/3110001767 Dated 06.06.2024) attached under **Annexure 5**.
- 5.10. In view of the above, it is humbly requested to the Hon’ble commission to allow Additional Capital Expenditure under Regulations 26(1) (g) of Tariff Regulations 2024 towards flexible operations upgrade for generating station as tabulated below:-

Table 3B : Statement showing Add Cap for flexible operations during the period 2024-29 [Regulation 26(1)(g)]

Sr. No.	Particulars						Rs. In lacs
		2024-25	2025-26	2026-27	2027-28	2028-29	Total
A	Enabling Flexibilization of Flex Operation- Variable IGV	53.00	-	-	-	-	53.00
	Gross Capital Expenditure	53.00	-	-	-	-	53.00

Reference to initiatives by other plants towards flexibilization –

- 5.11. It is submitted that the followings references may be noted for Additional Capital Expenditure on the ground of Flexible Operation.
- o A presentation has been made in 2019 by Siemens Energy to Hon’ble commission (CERC) under “Flexibilization of thermal power plants – need of hour” which emphasizes on Flexible operation of thermal power plant. Reference to successful implementation in NTPC Dadri Stage-II Unit 6 (490 MW) project has been provided. Copy attached under **Annexure 6**.
 - o In 2020, committee formed by CEA has successfully conducted pilot test of 40% minimum load operation and 3% ramp up/ ramp down (i.e. 15 MW/ Min) in Dadri TPS of NTPC under flexible operation of thermal power plants. Relevant para of Quarterly review report for Jul-Sep 2020 published by CEA in the regards is attached under **Annexure 7**.



6. Additional Capitalization for Efficient Operation | Regulation 26(1)(i)

A. Roof Top Solar PV Modules

Reduction of auxiliary consumption

- 6.1. It is obligation of the TPL-Dgen that the plant be used optimally so that benefit accrued from optimum utilization will be made available to the consumers. It is submitted that the TPL-Dgen has utilized available space at the plant site, available rooftops in different building and constructions site. The cost of the building construction and available land has already been capitalized.
- 6.2. Further, the electrification of the plant site consumes electricity generated from the TPL-Dgen. Consequently, the available electricity for the consumers will be reduced since part of the electricity is being consumed within the plant site. In this consideration, the TPL-Dgen has considered installation of Solar PV Modules for the purpose of catering the part of electrification requirement at plant and reduce auxiliary consumption. Thus, the net electricity available to the consumers will be more and ultimately, the benefit will be pass on to the consumers. Further, the Tariff Regulations, 2024 also allows the sharing of reduction of Auxiliary Power Consumption. Accordingly, the benefits of reduction in Auxiliary Power Consumption will be shared with beneficiaries as per the provision of the Tariff Regulations, 2024.
- 6.3. The petitioner, for the purpose of electrification of plant site, optimum utilization of available infrastructure and reduction of Auxiliary Power Consumption, decided to install Roof Top Solar (RTS) at TPL-DGEN. The Petitioner has placed purchase order to OEM (Ref. Dahej GEN/O&M/40226/3110001802 Dated 08.08.24) attached under **Annexure 8**.

The Commission's decision in 2019-24 Tariff order

- 6.4. It is submitted that the Hon'ble Commission, vide **order dated 13th July 2020 in Petition No. 270/GT/2019 in case of Torrent Power Limited**, had allowed Additional Capital Expenditure towards solar roof top on the ground of Efficient Operation. Para 23 of Petition is extracted below:-

"23. As regards the claim for additional capitalisation of Rs.35 lakh towards installation of 'Solar Power Roof Top System', the Petitioner has submitted as follows:

"Solar Power Roof Top System for Rs.35 lacs which has resulted into reduction of auxiliary consumption and benefits to beneficiaries in terms of sharing of ECR gain"



It is pertinent to mention that the energy generated from Solar Power Roof Top System installed at the generating station would meet some of the auxiliary energy requirements of the generating station and to that extent, the ex-bus energy available to the beneficiaries would increase. Considering the resolve of the Central Government to promote renewable energy and in terms of Regulation 8(6) of the 2014 Tariff Regulations which provide for sharing of gains in respect of variation of Auxiliary Energy consumption (by way of lower ECR because of lower auxiliary consumption in comparison to normative auxiliary consumption), we allow the additional capital expenditure of Rs.35 lakh incurred by the Petitioner towards the installation of Solar Power Roof Top System.”

A copy of relevant para of the order is attached herewith as **Annexure 9**.

- 6.5. In view of the above and approval of the Commission in past order, it is submitted that the consideration of solar roof top would help in reducing the auxiliary and increase efficiency of the generating station and the benefit of it will be pass through to the consumer. Considering these, it is humbly submitted to the Hon'ble commission to allow Additional Capital Expenditure under Regulations 26(1) (i) of Tariff Regulations 2024, to install solar rooftop on the non use space available within the premises of the generating station.

Cost Estimates

- 6.6. The cost of solar roof top PV is estimated based on the prevailing cost and purchase order placed with OEM mentioned under para 7.3. In view of the above, it is humbly requested to the Hon'ble commission to allow Additional Capital Expenditure under Regulations 26(1) (i) of Tariff Regulations 2024 to install roof top solar PV modules as tabulated below:-

Table 3C : Statement showing Add Cap for Efficient Operation during the period 2024-29 [Regulation 26(1)(i)]

Sr. No.	Particulars	Rs. In lacs					
		2024-25	2025-26	2026-27	2027-28	2028-29	Total
A	Roof Top Solar PV Modules at DGEN of 700kW _p	225.00	-	-	-	-	225.00
	Gross Capital Expenditure	225.00	-	-	-	-	225.00

- 6.7. The above said expenditure was provided in Tariff Regulation, 2014. The similar regulation also exists in the existing regulatory framework. Regulation 26(1)(i) provides that –



“26. Additional Capitalisation beyond the original scope

(1) The capital expenditure, in respect of the existing generating station or the transmission system, including the communication system, incurred or projected to be incurred on the following counts beyond the original scope, may be admitted by the Commission, subject to prudence check:

(a)...

(b)...

...

(i) Any additional capital expenditure which has become necessary for efficient operation of generating station or transmission system as the case may be, including the works required towards projects acquired through NCLT process. The claim shall be substantiated with the technical justification and cost benefit analysis.”

7. Discharge of Capital Liability [Regulation 25(1)(f)]

Petitioner has not claimed any discharge of undischarged liability during FY 2024-25 to FY 2028-29 under Regulation 25(1)(f) of the Tariff Regulations, 2024

8. On consideration of (i) Addition and (ii) Deletion as stated above, year wise, Additional Capital expenditure during the period 01.04.2024 to 31.03.2029 is summarised as below

Table 4 : Statement of Add Cap

Particulars	Rs. in lakhs				
	2024-25	2025-26	2026-27	2027-28	2028-29
Projected additional capital expenditure	278.00	-	-	250.00	250.00
Less: Decapitalisation	-	-	-	(82.29)	(69.79)
Additional capital expenditure (Table 3)	278.00	-	-	167.71	180.21
Add: Net Addition due to discharge of liability	-	-	-	-	-
Net Additional capital Expenditure	278.00	-	-	167.71	180.21

9. Based on the above, the Petitioner submits the capital cost during the period 01st April 2024 to 31st March 2029 as below:



Table 5: Projected Capital Cost (PCC) and Add Cap for the period 2024-29

Rs. in lakhs

Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
Opening Capital Cost	5,30,388.46	5,30,666.46	5,30,666.46	5,30,666.46	5,30,834.17
Add: Additional Capital Expenditure (Table 4)	278.00	-	-	167.71	180.21
Closing Capital Cost	5,30,666.46	5,30,666.46	5,30,666.46	5,30,834.17	5,31,014.37
Average Capital Cost	5,30,527.46	5,30,666.46	5,30,666.46	5,30,750.31	5,30,924.27



CHAPTER 3: Debt-Equity Ratio

1. Regulation 18 (3) of Tariff Regulations, 2024 provide that

“18. Debt-Equity Ratio: (1) For new projects, the debt-equity ratio of 70:30 as on date of commercial operation shall be considered. If the equity actually deployed is more than 30% of the capital cost, equity in excess of 30% shall be treated as normative loan:

Provided that:

- i. where equity actually deployed is less than 30% of the capital cost, actual equity shall be considered for determination of tariff:*
- ii. the equity invested in foreign currency shall be designated in Indian rupees on the date of each investment:*
- iii. any grant obtained for the execution of the project shall not be considered as a part of capital structure for the purpose of debt: equity ratio.*

Explanation-The premium, if any, raised by the generating company or the transmission licensee, as the case may be, while issuing share capital and investment of internal resources created out of its free reserve for the funding of the project, shall be reckoned as paid up capital for the purpose of computing return on equity, only if such premium amount and internal resources are actually utilised for meeting the capital expenditure of the generating station or the transmission system.

(2) The generating company or the transmission licensee, as the case may be, shall submit the resolution of the Board of the company or the approval of the competent authority in other cases regarding the infusion of funds from internal resources in support of the utilization made or proposed to be made to meet the capital expenditure of the generating station or the transmission system including communication system, as the case may be,

(3) In the case of the generating station and the transmission system, including the communication system declared under commercial operation prior to 1.4.2024, the debt-equity ratio allowed by the Commission for the determination of tariff for the period ending 31.3.2024 shall be considered:

Provided that in the case of a generating station or a transmission system, including a communication system which has completed its useful life as on 1.4.2024 or is completing its useful life during the 2024-29 tariff period, if the equity actually deployed is more than



30% of the capital cost, equity in excess of 30% shall not be taken into account for tariff computation;

...

(4)...

(5) Any expenditure incurred or projected to be incurred on or after 1.4.2024 as may be admitted by the Commission as additional capital expenditure for determination of tariff, and renovation and modernisation expenditure for life extension shall be serviced in the manner specified in clause (1) of this Regulation.”

2. The Hon’ble Commission vide para 9 of its Tariff Order for 2019-24 dated 10th March 2022 in the Petition no. 236/GT/2020 has considered debt-equity ratio of 70:30 for the purpose of determination of Tariff for the period 1st April 2019 to 31.03.2024. The same is also reproduce as below:

“Debt-Equity Ratio

9. The gross normative loan and normative equity amounting to Rs.373138.06 lakh and Rs.159916.31 lakh, respectively, as on 31.3.2019, was considered in order dated 8.3.2022 in Petition No. 278/GT/2020. Accordingly, in terms of Regulation 18 of the 2019 Tariff Regulations, the gross normative loan and normative equity amounting to Rs.373138.06 lakh and Rs.159916.31 lakh, has been considered as on 1.4.2019.

Capital Cost	As on 1.4.2019 (Rs in lakh)	(%)	Additional capital expenditure from 1.4.2019 to 31.3.2024	(%)	As on 31.3.2024 (Rs in lakh)	(%)
Debt	373138.06	70.00%	0	0	373138.06	70.00%
Equity	159916.31	30.00%	0	0	159916.31	30.00%
Total	533054.37	100.00%	0	0	533054.37	100.00%

3. It is submitted that the generating station has yet to complete its useful life. The debt:equity ratio of opening capital cost and additional capital expenditure during the tariff period 2024-29 has been considered in accordance with the Regulation 18 of the Tariff Regulations, 2024. Accordingly, the debt-equity ratio considered for determination of tariff for the period 01.04.2024 to 31.03.2029 is 70:30 as under:-

Table 6: Debt : Equity Ratio for Tariff Period 2019-24 (Truing-up) Vs. Tariff Period 2024-29

Sr No	Tariff Period 2019-24 (Truing-up)			Tariff Period 2024-29		
	As on 31.3.2019	Add Cap	Closing as on 31.3.2024	Opening as on 1.4.2024	Add Cap	Closing as on 31.3.2029
Debt	3,73,138.06	(1,866.14)	3,71,271.92	3,71,271.92	438.14	3,71,710.06
(%)	70.00%	70.00%	70.00%	70.00%	70.00%	70.00%
Equity	1,59,916.31	(799.77)	1,59,116.54	1,59,116.54	187.78	1,59,304.32
(%)	30.00%	30.00%	30.00%	30.00%	30.00%	30.00%
Total	5,33,054.37	(2,665.91)	5,30,388.46	5,30,388.46	625.92	5,31,014.39



CHAPTER 4: Operating Norms & Energy Charge Rate

1. Operating Norms

The Operating Norms of the Generating Station as per 70(A)(a), 70(C)(c) and 70(E)(c) of Tariff Regulation 2024 are as below:-

Table 7: Normative Operating Parameters for the Generating Station

Description	Unit	Normative parameters	Applicable Regulation
Target NAPAF for recovery of fixed charges	%	85	70(A)(a)
Gross Station Heat Rate (Combined Cycle)	kCal / kWh	1831.63	70(C)(c)
Auxiliary Energy Consumption (Combined Cycle)	%	2.75	70(E)(c)

2. Monthly Energy Charge

Energy Charge on month-to-month basis will be billed by the Petition as per Regulation 64(1) of Tariff Regulation 2024 which is extracted below:

“The energy charge shall cover the primary and secondary fuel cost and limestone consumption cost (where applicable) and shall be payable by every beneficiary for the total energy scheduled to be supplied to such beneficiary during the calendar month on an ex-power plant basis, at the energy charge rate of the month (with fuel and limestone price adjustment). The total Energy charge payable to the generating company for a month shall be:

Energy Charges = (Energy charge rate in Rs./kWh) x {Scheduled energy (ex bus) for the month in kWh}”

3. It is respectfully submits that on consideration of actual Fuel Cost for the period April 2023 to March 2024 as applicable to FY 2024-25 to FY 2028-29 of tariff period and applicable operating parameters prescribed under Tariff Regulations 2024, the base Energy Charge Rate (ECR) in Rupees per KWH on ex bus bar basis is as per Annexure I to the Tariff Petition.



CHAPTER 5: Annual Fixed Charge

1. Determination of Annual Fixed Cost

The Annual Fixed Cost are an aggregate of cost estimates on following items:

- a. Return on Equity
- b. Interest on Loan
- c. Depreciation
- d. Interest on Working Capital
- e. Operation and Maintenance (O&M) Expenses

2. Return on Equity

- a. As per Regulations 31 of Tariff Regulations 2024, ROE shall be grossed up with the effective tax rate of the respective financial year.
- b. Accordingly, ROE as allowed has been grossed up with the MAT rate, as applicable to respective year as shown hereunder, as generating company will remain under MAT during the tariff period 01.04.2024 to 31.03.2029.

Table 8 : MAT rate calculation

Depreciation	2024-25	2025-26	2026-27	2027-28	2028-29
Base Rate (%)	15.00	15.00	15.00	15.00	15.00
Surcharge (%)	12.00	12.00	12.00	12.00	12.00
Edu Cess (%)	4.00	4.00	4.00	4.00	4.00
	17.472	17.472	17.472	17.472	17.472

- c. The ROE has been worked out as below for the tariff period on account of the Add Cap and de-capitalization of assets as stated in Chapter 2 of this petition.



Table 9: Statement of ROE

	Rs in Lakhs				
Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
Normative Equity - Opening	1,59,116.54	1,59,199.94	1,59,199.94	1,59,199.94	1,59,250.25
Net Addition of Equity due to Add. Capital Expenditure	83.40	-	-	50.31	54.06
Normative Equity - Closing	1,59,199.94	1,59,199.94	1,59,199.94	1,59,250.25	1,59,304.31
Average Normative Equity	1,59,158.24	1,59,199.94	1,59,199.94	1,59,225.09	1,59,277.28
Return on Equity (Base Rate)	15.50%	15.50%	15.50%	15.50%	15.50%
Effective Tax Rate for respective years	17.47%	17.47%	17.47%	17.47%	17.47%
Rate of Return on Equity (Pre-Tax)	18.78%	18.78%	18.78%	18.78%	18.78%
Return on Equity (Pre Tax-annualized)	29,893.10	29,900.93	29,900.93	29,905.66	29,915.46

3. Interest on Loans

a. Clause 32 of Tariff Regulation 2024 provides as under

- i. *The normative loan outstanding as on 01.04.2024 shall be worked out by deducting the cumulative repayment as admitted by the Commission up to 31st March 2024 from the gross normative loan.*
- ii. *The repayment of each year shall be equal to the depreciation allowed for the corresponding year/period.*
- iii. *The rate of interest on loan shall be the weighted average Rate of interest (ROI) calculated on the basis of actual loan portfolio after providing appropriate accounting adjustment for the interest capitalized.*
- iv. *The interest on loan is calculated on the normative average loan for respective year by applying the weighted average rate of interest, which calculation is based on application of ROI on actual loan portfolio of each lender.*

b. As per the agreements with Banks and Financial Institution, the applicable ROI and weighted average RoI have been calculated under Tariff Form-13 under **Annexure I.**



- c. The weighted average Interest Rate considered for the period 1st April, 2024 to 31st March 2029 is based on prevailing Interest Rate as on date and summarised as below:-

Table 10 : Weighted average Interest (WROI) on actual loan

Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
WROI (%)	8.85%	8.85%	8.85%	8.85%	8.85%

- d. Depreciation amount for respective financial year has been considered as the annual repayment of normative loan for the year. In case of de-capitalization of assets, the repayment has been adjusted by taking into account cumulative repayment on a pro-rata basis and the adjustment has not exceeded cumulative depreciation recovered upto date of de-capitalization of such asset.

- e. Based on the above, the calculations of Interest on normative loans are as under:

Table 11: Interest on Loan

Rs in Lakhs					
Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
Gross Normative Loan	3,71,271.92	3,71,466.52	3,71,466.52	3,71,466.52	3,71,583.92
Cumulative Repayment	2,56,892.40	2,83,945.58	3,11,005.86	3,38,066.13	3,49,129.52
Net Normative Loan - Opening	1,14,379.53	87,520.94	60,460.66	33,400.39	22,454.39
Addition due to Additional capital expenditure (Net off De-Cap)	194.60	-	-	117.40	126.15
Repayment of loan during the year	27,053.19	27,060.27	27,060.27	11,119.02	11,137.47
Less: Repayment Adjustment on account of de-capitalisation	-	-	-	(55.63)	(48.60)
Net Repayment of Loan during the year	27,053.19	27,060.27	27,060.27	11,063.39	11,088.87
Net Loan Closing	87,520.94	60,460.66	33,400.39	22,454.39	11,491.67
Average Loan	1,00,950.23	73,990.80	46,930.53	27,927.39	16,973.03
Weighted Average Rate of Interest on Loan	8.85%	8.85%	8.85%	8.85%	8.85%
Interest on Loan	8,934.10	6,548.19	4,153.35	2,471.57	1,502.11

4. Depreciation

- a. Regulation 33 of Tariff Regulation 2024 provides that the value base for the purpose of computation of Depreciation shall be computed from COD of the Generating Station on taking into consideration the depreciation of individual units.



- b. Depreciation on cost of assets has been calculated based on straight line method and at the rates prescribed under Appendix I of Tariff Regulation 2024.
- c. The DGEN Plant, being an existing Plant, the balance depreciation value as on 01.04.2024 is worked out by deducting the cumulative depreciation as admitted by the Commission.
- d. Further, Regulation 33(5) provides that the remaining depreciable value as on 31st March of the year closing after a period of 12 years from the effective date of commercial operation of the station shall be spread over the balance useful life of the assets.
- e. Accordingly, remaining depreciable value as on 31st March 2027, after a period of 12 years from the effective date of commercial operation of the station, have been spread over the balance useful life of the assets.
- f. In case of de-capitalization of asset, the cumulative depreciation has been adjusted by considering the depreciation recovered in tariff by de-capitalization of asset during the useful service.
- g. Land is not depreciable asset and the same has been excluded from the Capital cost for purpose of computation of depreciation.
- h. As Plant shall complete 12 years in FY 2026-27, from the date of commercial operation, the remaining depreciable value as on 31st March of each year, as the case may be, shall be spread over the balance useful life of the assets with necessary adjustment on account of de-capitalization of assets during the tariff period.
- i. The applicable calculation for depreciation for the Tariff Period is as under.

Table 12: Calculation of Depreciation

Rs in Lakhs					
Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
Average Capital Cost - c	5,30,527.46	5,30,666.46	5,30,666.46	5,30,750.31	5,30,924.27
Freehold land included above	719.67	719.67	719.67	719.67	719.67
Value of IT equipment & software incl. above	262.59	262.59	262.59	262.59	262.59
Depreciable Value	5,29,545.20	5,29,684.20	5,29,684.20	5,29,768.05	5,29,942.01
Depreciable value @ 90% + IT	4,76,853.27	4,76,978.37	4,76,978.37	4,77,053.83	4,77,210.40



Remaining useful life at the beginning of the year – a	15.50	14.50	13.50	12.50	11.50
Balance depreciable value - b	2,19,960.88	1,93,032.79	1,65,972.52	1,38,987.71	1,28,080.88
Depreciation rate - d	5.099%	5.099%	5.099%	2.099%	2.102%
Depreciation – c*d (for 2024-27) & b/a (for 2027-28 onwards)	27,053.19	27,060.27	27,060.27	11,119.02	11,137.47
Cumulative Depreciation at the end	2,83,945.57	3,11,005.85	3,38,066.12	3,49,185.14	3,60,266.98
Less : Cumulative depreciation adjustment on account of de-capitalisation	-	-	-	55.63	48.60
Net Cumulative Depreciation	2,83,945.57	3,11,005.85	3,38,066.12	3,49,129.51	3,60,218.38

5. Operation & Maintenance (O&M) Expenses

- a. Regulation 36 (1) (3) of Tariff Regulation 2024 provide the following O&M expenses norms for this Generating Station.

Table 13: Operation and Maintenance Expenses (Regulation 36(1)(3))

Rs in Lakhs					
Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
O & M Expenses (Rs. In Lakh / MW)	32.08	33.77	35.54	37.40	39.37
Installed Capacity (MW)	1,200.00	1,200.00	1,200.00	1,200.00	1,200.00
O & M Expenses (Rs. in Lakhs)	38,496.00	40,524.00	42,648.00	44,880.00	47,244.00

- b. Further, Regulation 36 (3) provides following O&M expenses with reference to dedicated 400 KV Dgen-Navsari Transmission line.

Table 14: Operation and Maintenance expenses (Regulation 35 (3))

Rates per Unit	No.	2019-20	2020-21	2021-22	2022-23	2023-24
400KV gas insulated substation (Rs. Lakhs per bay)	2 Bays	29.53	31.08	32.71	34.43	36.23
Double Circuit (Twin & Triple Conductor) (Rs. Lakhs per km)	110 kms	0.861	0.906	0.953	1.003	1.056



		Rs. Lakhs				
Amount		2019-20	2020-21	2021-22	2022-23	2023-24
400KV gas insulated substation	2 No. of Bays	59.06	62.16	65.42	68.86	72.46
Double Circuit (Twin & Triple Conductor)	110 Kms.	94.71	99.66	104.83	110.33	116.16
O & M Expenses (Rs. In lakhs)		153.77	161.82	170.25	179.19	188.62

- c. The value of water charges claimed is in terms of Regulation 36 (1) (6) of Tariff Regulation 2024 and the same is based on the expected water consumption of the Generating Station on normative basis. The necessary details of the type of Plant, type of cooling water system etc in this regard are provided in Form 2 of Appendix I of Tariff Filing Forms. Further, the calculation has been shown under Form 19 of Appendix I of Tariff Filing Forms.
- d. For generating 1 MWh of Electricity with all three units in operation, around 1 M³ of water is required. Rate / M³ for the FY 2023-24 was Rs. 49.84 / M³ and considering annual escalation of 3% in terms of Notification No. NWRWSKD/RWR/e-file/13/2022/9468/Section P (Water Planning)-annexed under **Annexure 10**, year-wise value has been derived which is tabulated as below -

Table 15: Estimated Water Charges (Regulation 36 (1) (6))

		Rs in Lakhs				
Particulars		2024-25	2025-26	2026-27	2027-28	2028-29
Water Charges		4,587.33	4,724.93	4,867.00	5,026.38	5,162.76

- e. The value of Security Expenses claimed is in terms of Regulation 36 (1) (6) of Tariff Regulation 2024 and the same is based on the actual expense incurred for the FY 2023-24 with YoY % increase in normative O & M Cost as considered by hon'ble Commission.

Table 16: Estimated Security Expenses (Regulation 36 (1) (6))

		Rs in Lakhs				
Particulars		2024-25	2025-26	2026-27	2027-28	2028-29
Security Expense		232.83	245.10	257.94	271.44	285.74

- f. Based on the above, the total estimated O&M expenses (including transmission line, water & security charges) considered for the Tariff is as below:



Table 17: Operation and Maintenance Charges, Water Charges & Security Expense

	Rs in Lakhs				
Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
O & M Charges (Table 13)	38,496.00	40,524.00	42,648.00	44,880.00	47,244.00
O & M Expenses- Transmission Line (Table 14)	153.77	161.82	170.25	179.19	188.62
Water Charges (Table 15)	4,587.33	4,724.93	4,867.00	5,026.38	5,162.76
Security Expenses (Table 16)	232.83	245.10	257.94	271.44	285.74
Total	43,469.93	45,655.85	47,943.20	50,357.01	52,881.12

6. Interest on Working Capital

- a. Regulation 34(c) of Tariff Regulation 2024 provides that the interest on working capital shall be worked out as per the norms in the CERC Tariff Regulations 2024. The following are considered for determining the base for working capital in a year:

- i. **Fuel cost:** Fuel Cost is based on fuel for 15 days corresponding to the normative annual plant availability factor (NAPAF), duly taking into account mode of operation of the generating station on gas fuel. A table showing the fuel cost for 15 days corresponding to NAPAF for each year of the Tariff Period is as below:-

Table 18: Fuel Cost for 15 days corresponding to Normative Annual Plant Availability Factor (NAPAF)

	Rs in Lakhs				
Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
Fuel Cost (15 days)	23,859.58	23,859.58	23,859.58	23,859.58	23,859.58

The above fuel cost is derived in terms of Provisions of Regulation 34 (c) (i) and Regulation 34 (2) of Tariff Regulation 2024. Since the plant was not in operation during FY 2023-24, hence, the Petitioner has considered landed fuel cost as claimed by Petitioner company for its Sugan 40 plant.

ii. Liquid fuel Stock:

Regulation 34(b) (ii) allows Liquid fuel stock for 15 days corresponding to the normative annual plant availability factor. Hence, the subject provision provides for Liquid NG stock of gas-based power plants for 15 days in IoWC.

Based on proportion of liquid fuel in fuel mix of FY 2023-24, Petitioner provides hereunder a table showing the liquid stock of 15 days has been derived for each year of the Tariff Period is as below:-



Table 19: Liquid Fuel Cost for 15 days corresponding to Normative Annual Plant Availability Factor (NAPAF)

Rs in Lakhs					
Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
Fuel for 15 days (Table 18)	23,859.58	23,859.58	23,859.58	23,859.58	23,859.58
Proportion of liquid fuel used as compared to total fuel cost	59.31%	59.31%	59.31%	59.31%	59.31%
Liquid Fuel Cost considered for working capital	14,149.93	14,149.93	14,149.93	14,149.93	14,149.93

- b. **Maintenance spares:** The computation is based on 30% of operation and maintenance expenses including water charges and security expenses which is provided under Regulation 34 (c) (iii) of Tariff Regulation 2024. A statement showing the amounts regarding maintenance spares for each year of the Tariff Period is as below:-

Table 20: Maintenance Spares [30% of Operation and Maintenance Expense]

Rs in Lakhs					
Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
Maintenance Spares	13,040.98	13,696.76	14,382.96	15,107.10	15,864.34

- c. **Receivables:** In line with Regulations 34 (c) (iv) of Tariff Regulation 2024, receivables amount is equivalent to 45 days of capacity charge and energy charges calculated on NAPAF.

- The receivable amount represents for 45 days of (i) variable charges and (ii) fixed charges for sale of electricity and the same is calculated at NAPAF @ 85%. Finally, the receivable are worked out on the basis of 45 days of (i) variable charges and (ii) fixed charges, the synopsis is as below:

Table 21: Receivables component of working capital

Rs in Lakhs					
Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
Variable Charges (45 days)	71,573.95	71,573.95	71,573.95	71,573.95	71,573.95
Fixed Charges (45 days)	15,562.06	15,551.38	15,550.98	13,624.44	13,874.79
Total Receivables	87,136.01	87,125.33	87,124.94	85,198.40	85,448.74

- d. **O&M Expenses:** In terms of Regulations 34 (c) (v) of Tariff Regulation 2024, Operation and maintenance expenses for one month is considered for the purpose of computation of Working Capital during the Tariff Period



Table 22: Operation and Maintenance Expenses for One Month for working capital

Rs in Lakhs					
Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
O & M Expenses	3,622.49	3,804.65	3,995.27	4,196.42	4,406.76

- e. Regulation 34 (3) provides that the Rate of interest on working capital shall be on normative basis and shall be considered as the bank rate as on 01.04.2024 or as on 1st April of the year during the tariff period 2024-29 in which the generating station or a unit thereof or the transmission system including communication system or element thereof, as the case may be, is declared under commercial operation, whichever is later.
- f. The Bank Rate of 11.90%, as shown below, has been considered for purpose of computation of interest on working capital in line with Regulation 34 (3) of Tariff Regulations 2024.

Table 23 : Bank Rate as on 1st April, 2024

Particulars	RoI
SBI MCLR as on 1st April 2024	8.65%
Plus 325 basis point	3.25%
Rate of Interest for Working Capital	11.90%

- g. Based on the above, the Interest on Working capital for Tariff Period is as under:-

Table 24: Interest on Working Capital (IoWC)

Rs in Lakhs					
Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
Cost of Fuel - 15 days	23,859.58	23,859.58	23,859.58	23,859.58	23,859.58
Liquid fuel stock - 15 days	14,149.93	14,149.93	14,149.93	14,149.93	14,149.93
Maintenance Spares @ 30% of O & M expenses	13,040.98	13,696.76	14,382.96	15,107.10	15,864.34
Receivables - 45 days	87,136.01	87,125.33	87,124.94	85,198.40	85,448.74
O & M expenses (1 month)	3,622.49	3,804.65	3,995.27	4,196.42	4,406.76
Total Working Capital	1,41,809.00	1,42,636.25	1,43,512.67	1,42,511.43	1,43,729.35
Rate of Interest	11.90%	11.90%	11.90%	11.90%	11.90%
Interest on Working Capital	16,875.27	16,973.71	17,078.01	16,958.86	17,103.79

7. Annual Fixed Cost

- a. The summary of the Annual Fixed Cost for the financial years from 2024-25 to 2028-29 in respect of the Generating Station stands as under:-



Table 25: Summary of estimated Annual Fixed Cost (AFC)

Rs in Lakhs

Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
Depreciation	27,053.19	27,060.27	27,060.27	11,119.02	11,137.47
Interest on Loan	8,934.10	6,548.19	4,153.35	2,471.57	1,502.11
Return on Equity	29,893.10	29,900.93	29,900.93	29,905.66	29,915.46
Interest on Working Capital	16,875.27	16,973.71	17,078.01	16,958.86	17,103.79
O & M Expenses	43,469.93	45,655.85	47,943.20	50,357.01	52,881.12
Total	1,26,225.59	1,26,138.96	1,26,135.76	1,10,812.12	1,12,539.95

All figures are on annualized basis.

All figures under each of head/total column has been rounded off to two decimal.



CHAPTER 6: Summary

1. Torrent Power Limited, Dgen 1200 MW Mega Power Plant (Petitioner) is filing the Petition along with duly filled in Tariff filing forms as per Annexure I (Part I) to Tariff Regulation 2024 for determination of Tariff for Tariff period 2024-29.
2. The Tariff for the Generating Station had been determined by the Hon'ble Commission vide Tariff Order dated 10th March 2022 to Petition No. 236/GT/2020 for the period 1st April 2019 to 31st March 2024 and a True up Petition for revision of Annual Fixed Cost has been submitted to Hon'ble Commission.
3. **Project Capital Cost**
 - a. The final value of the Project Capital Cost for the period 1st April 2024 to 31st March 2029 is as below:

Table 26: Project Capital Cost for the period 1st April 2024 to 31st March 2029

Rs in Lakhs

Particulars	2024-25	2025-26	2026-27	2027-28	2028-29
Opening Capital Cost	5,30,388.46	5,30,666.46	5,30,666.46	5,30,666.46	5,30,834.17
Additional Capital Expenditure	278.00	-	-	167.71	180.21
Closing Capital Cost	5,30,666.46	5,30,666.46	5,30,666.46	5,30,834.17	5,31,014.37

4. The ROE is considered at 18.782% for Tariff Period, considering the base rate of 15.50% and MAT of 17.472%. However, if the MAT rate of 17.472% is changed in terms of provisions of Finance Act, the ROE may undergo change leading to change in Annual Fixed Charge. Such change in ROE may be allowed to be billed to the beneficiaries directly without approaching the Hon'ble Commission.
5. The Tariff Forms are based on the normative operative parameters as per Tariff Regulation 2024.
6. The Petitioner is submitting details in Annexure I and operating norms for determination of Tariff for the Tariff Period 2024-29. The Petitioner humbly submits that duly filled in forms in Annexure I (Part 1) are submitted in terms of CERC (Terms & Conditions of Tariff) Regulations 2024.



7. The Petitioner respectfully submits that the Base Energy Charge Rate (ECR) in Rupees per KWh is calculated on ex bus bar basis and is based on the normative operating parameters prescribed under Tariff Regulations 2024. The Petitioner further, submits that the Dgen Plant was not in operation during the period FY 2023-24 of Tariff Period, hence, the Petitioner has considered landed fuel cost as claimed by Petitioner company for its Sugan 40 plant.
8. The Petitioner also submits that the complete application has been posted at its website ***www.torrentpower.com***.



CHAPTER 7: Prayer

The present Petition is submitted to the Hon`ble Commission for determination of Tariff for Tariff Period 2024-29. In view of the facts and circumstances as aforesaid, the Petitioner prays to the Hon`ble Commission that it may be pleased to:

1. Approve the net additional capital expenditure of total Rs. 625.92 lakhs as per Table 3 under Regulation 25 (2) (a), 26 (1) (g) and 26 (1) (i) of Tariff Regulations, 2024.
2. Determine and approve recovery of unrecovered depreciation on assets which are on account of replacement of assets before useful life of the plant due to obsolescence of technology.
3. Determine and approve the Tariff for DGEN Plant for Tariff Period (FY 2024-29) as per Tariff Filing Forms in Annexure I for the sale of power to the beneficiaries.
4. Allow the petitioner to bill and adjust impact of change in ROE due to change in MAT from time to time from the beneficiaries directly without approaching Hon`ble Commission.
5. Allow the petitioner to bill and adjust impact of interest on loan due to change in interest rate or change of base rate as the case may be from time to time from the beneficiaries.
6. Approve recovery of filing fees of this petition from the beneficiaries.
7. Approve the recovery of charges for publication of notices from the beneficiaries.
8. Allow any other relief and/or pass any other order as Hon`ble Commission may deem fit and appropriate under the circumstances of the case.
9. Allow additions/ alterations/ changes/ modifications to the Petition at a future date and condone any inadvertent omissions/ errors.
10. Pass such order as this Hon`ble Commission deems fit and appropriate in the facts and circumstances of the case in the interest of justice.

Place: Bharuch

Date: 25th November 2024

Petitioner

